

U.S. Application Serial No. 10/694,249
Attorney Docket: 46107-0034
Reply to Office Action of March 29, 2005

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (CURRENTLY AMENDED) A planetary differential comprising:

a differential case rotatable about an axis, said differential case including a cover, a housing, an annulus gear, and a ring gear, said differential case defining a differential cavity having a clutch cavity and a planet cavity; and

a retainer plate coupled to said housing and separating said clutch cavity from said planet cavity and wherein said retainer plate is fixed from movement along said axis as said differential case is rotated about said axis.

2. (ORIGINAL) The planetary differential of claim 1 wherein the axial position of said retainer plate relative to said housing is adjustable.

3. (CURRENTLY AMENDED) The planetary differential of claim 1 further including a planetary carrier and wherein said housing includes a threaded section, said planetary carrier includes a pedestaled flange and an axial hub, and wherein said clutch cavity is bounded by said retainer plate, axial hub, and housing.

4. (CURRENTLY AMENDED) A ~~The planetary differential of claim 3~~ comprising:
a differential case rotatable about an axis, said differential case including a cover, a housing, an annulus gear, and a ring gear, said differential case defining a differential cavity having a clutch cavity and a planet cavity, and wherein said housing includes a threaded section;
a planetary carrier including a pedestaled flange and an axial hub, and wherein said clutch cavity is bounded by said retainer plate, axial hub, and housing;

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a retainer plate coupled to said housing and separating said clutch cavity from said planet cavity
and wherein said housing has a threaded segment, wherein the retainer plate has threads engaging said threaded segment to permit adjustment of the axial position of said retainer plate relative to said housing.

5. (ORIGINAL) The planetary differential of claim 1 wherein said housing defines said clutch cavity and includes an axial opening, said retainer plate coupled to said housing between said clutch cavity and said axial opening.

6. (ORIGINAL) The planetary differential of claim 5 wherein said cover is fastened to said annulus gear to form said planet cavity, said ring gear is fastened to said annulus gear, and said housing is fastened to said ring gear or said annulus gear.

7. (ORIGINAL) The planetary differential of claim 5 wherein said ring gear is integral with said annulus gear, said cover is fastened to said integral annulus/ring gear and said housing is fastened to said integral annulus/ring gear.

Claims 8-10 (CANCELLED)

11. (ORIGINAL) The planetary differential of claim 1 wherein said retainer plate is coupled to said housing to resist axial forces from said planetary carrier such that said planetary differential is selectively configurable to function as a torque biasing differential or an open differential.

12. (ORIGINAL) The planetary differential of claim 11 further including a planetary gear set disposed within said planet cavity, said planetary gear set including a planetary carrier, inner and outer planet gears, and a sun gear, wherein said inner and outer planet gears are coupled to rotate with and

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relative to said planetary carrier, wherein said outer planet gears are meshed with said annulus gear, wherein said inner planet gears are meshed with said outer planet gears and said sun gear and wherein said planetary differential includes a clutch pack disposed in said clutch cavity and a clutch actuator operatively coupled to said clutch pack when said planetary differential is configured to function as a torque biasing differential, said clutch pack including first clutch plates fixed to rotate with said housing and second clutch plates fixed to rotate with said planetary carrier, and wherein said retainer plate operatively engages said clutch pack to function as a reactor plate for said clutch pack when said planetary differential is configured to function as a torque biasing differential.

13. (CURRENTLY AMENDED) A planetary differential for use as an open or torque biasing differential by selectively including or omitting a torque biasing assembly, said planetary differential comprising:

a differential case rotatable about an axis, said differential case including a cover, a housing, an annulus gear, and a ring gear, said differential case defining a differential cavity having a clutch cavity and a planet cavity, said housing defining said clutch cavity and including an axial opening;

a planetary gear set disposed within said planet cavity, said planetary gear set including a planetary carrier, inner and outer planet gears, and a sun gear, said inner and outer planet gears coupled to rotate with and relative to said planetary carrier, said outer planet gears meshed with said annulus gear, said inner planet gears meshed with said outer planet gears and said sun gear; and

a retainer plate coupled to said housing between said clutch cavity and said axial opening to separate said clutch cavity from said planet cavity and to resist axial forces from said planetary carrier and wherein said retainer plate is fixed from movement along said axis as said differential case is rotated about said axis.

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14. (ORIGINAL) The planetary differential of claim 13 wherein said planetary differential includes a clutch pack disposed in said clutch cavity and a clutch actuator operatively coupled to said clutch pack when said planetary differential is configured to function as a torque biasing differential, said clutch pack including first clutch plates fixed to rotate with said housing and second clutch plates fixed to rotate with said planetary carrier.

15. (ORIGINAL) The planetary differential of claim 14 wherein said retainer plate operatively engages said clutch pack to function as a reactor plate for said clutch pack when said planetary differential is configured to function as a torque biasing differential.

Claims 16-24 (CANCELLED)